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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,946	10/12/2001	Richard A. Eleo	FCI-2642 C2285A	2569

7590 05/21/2002  
Woodcock Washburn LLP  
46th Floor  
One Liberty Place  
Philadelphia, PA 19103

EXAMINER

LEE, BENNY T

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 05/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES DEPARTMENT OF COMMERCE  
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27/976,964

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT

PAPER NUMBER

DATE MAILED:

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

Application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.statutory period for response to this action is set to expire Three (3) month(s), \_\_\_\_\_ days from the date of this letter.  
Respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

## THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |  |   |
|--|---|
| Notice of References Cited by Examiner, PTO-892        | 2. <input checked="" type="checkbox"/> Notice re Patent Drawing, PTO-848.       |
| Notice of Art Cited by Applicant, PTO-1449             | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| Information on How to Effect Drawing Changes, PTO-1474 | 6. <input type="checkbox"/> _____   |

## SUMMARY OF ACTION

Claims 1-15 are pending in the application.Of the above, claims 7-15 are withdrawn from consideration.

Claims \_\_\_\_\_ have been cancelled.

Claims \_\_\_\_\_ are allowed.

Claims 1-6 are rejected.

Claims \_\_\_\_\_ are objected to.

Claims \_\_\_\_\_ are subject to restriction or election requirement.

If application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.

If allowable subject matter having been indicated, formal drawings are required in response to this Office action.

If corrected or substitute drawings have been received on \_\_\_\_\_. These drawings are: ☐ acceptable;  
☐ not acceptable (see explanation).If ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_  
(have) been ☐ approved by the examiner, ☐ disapproved by the examiner (see explanation).If proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved, ☐ disapproved (see explanation). However,  
Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are  
corrected. Corrections **MUST** be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO  
EFFECT DRAWING CHANGES", PTO-1474.Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received

\_\_\_\_\_ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_

If this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in  
accordance with the practice under Ex parte Quayle, 1935 O.D. 11; 453 O.G. 213.

SN 976946

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Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-6, drawn to a first backplane system, classified in class 333, subclass 239.
- II. Claims 7-15, drawn to a second backplane system, classified in class 333, subclass 239.

Inventions I and II are considered independent invention under the genus of backplane systems since each backplane system contains mutually exclusive subject matter not found in the other backplane system. For example, the first backplane of Invention I includes a single substrate for supporting the waveguide channel therebetween which is not found in Invention I. Additionally the second backplane of Invention II require specific gap configurations not found in the first backplane of Invention I.

During a telephone conversation with Joe Condo on April 19, 2002 a provisional election was made traverse to prosecute the invention of Group I, claims 1-6. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7-15 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

The disclosure is objected to because of the following informalities: Page 7, line 12, it is unclear whether "FR-4" is a registered trademark. If such is the case, then it's generic terminology should be provided. Page 11, lines 7-14, note that the nature of each curve in each drawing figures needs to have further elaboration. Page 12, lines 5, 8, 12, 18, note that --channel- should follow each occurrence of "dielectric" for consistency.

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Appropriate correction is required.

The use of the trademark TEFLON (e.g. p. 6, ln. 22; p. 12, ln. 12) has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States

(c) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by either Williams, Bridges et al or Sequeira.

Williams (fig. 2) discloses a dielectric substrate (11, 17, 12) in which an air channel (14) is disposed thereon. A conductive coating (15) disposed on the surface of channel (14) defines a waveguide on substrate.

Bridges et al (fig. 5) discloses a substrate (53) upon which a dielectric waveguide (55) is disposed thereon via a channel in the substrate.

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Sequeira (fig. 4) discloses a substrate (30) having a dielectric waveguide (32) disposed thereon.

In each of the above references, the waveguide thereof being an electromagnetic wave propagating medium inherently must include ends thereof connected respectively to a transmitter (for waveguide) and a receiver (for receiving the waves propagated through the waveguide).

Claims 1, 5 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by either Ishikawa et al, Fiedziuzko or Barnett et al.

Ishikawa et al (fig. 1) discloses a substrate (26, 27) upon which a dielectric waveguide (23) is disposed thereon.

Fiedziuzsko (fig. 16) discloses a waveguide structure (166) comprising a low dielectric constant substrate (174, 178) and waveguide (168) comprising high dielectric constant waveguide strips (170, 172) disposed on the substrate.

Barnett et al (fig. 1) discloses a substrate (8) having a waveguide having walls (12, 14, 16) and an air channel (20) disposed thereon.

Likewise, for reasons set forth in the preceding rejection, these waveguides inherently connect with a transmitter and receiver.

Claim 2 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Williams.

Note that dielectric layers (11, 17, 12) constitute a multi-layered substrate.

Claim 2 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Fiedziuzsko.

Note low dielectric constant layers (174, 178) constitute a multi-layered substrate

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Claims 2, 6 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Ishikawa et al.

Ishikawa et al (fig. 1) discloses substrate layers (26, 27) which constitutes a multi-layered substrate. Moreover, as described at col. 1, Ins. 32-35, waveguides (such as the type in Ishikawa et al) operate at microwave/millimeter wave frequencies. As described at col.1, Ins. 22-25, such microwave/millimeter wave frequencies have various applications such as satellite and mobile communications. Furthermore, the waveguide (23) includes a gap region (23c) which propagates the electromagnetic wave through the waveguide (23) and adjacent regions (23a, 23b) in which electromagnetic waves do not propagate. As known to those of ordinary skill in the art, propagation of such electromagnetic waves inherently are in the lowest or fundamental mode while avoiding undesired higher order modes.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al.

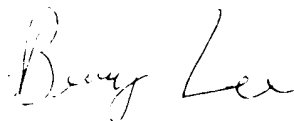
As described in the immediately preceding rejection, there are certain applications for such waveguides (i.e. satellite, mobile). Accordingly, for such satellite or mobile applications, obviously use of transceivers for providing the transmit and/or receive functions would have provided a desired optimization for such a transmit and/or receive functions, thereby suggesting

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the obviousness of such a modification. Furthermore, inherent within any transceiver would have been a "modem" as would have been known to those of ordinary skill in the art.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (703) 308-4902.

B. Lee/mm

A handwritten signature in cursive script that reads "Benny Lee". The signature is written in dark ink and is positioned to the right of the typed name "B. Lee/mm".

05/02/02